

Application No. 10/085,408

--34. The AC generator as in claim 31, wherein the wall member has an inner wall and an outer wall located at different positions in a radial direction of the slip ring cover, and the air passage is provided between the inner wall and the outer wall.--

--35. The AC generator as in claim 34, wherein the outer wall has an opening at a position radially outside the inner wall.--

REMARKS

Claims 1-35 are pending. By this Amendment, claims 1-3 are amended and claims 22-35 are added. The attached Appendix includes a marked-up copy of each rewritten claim (37 C.F.R. §1.121(c)(1)(ii)).

Entry of the amendments is proper under 37 CFR §1.116 since the amendments:

- (a) place the application in condition for allowance for the reasons discussed herein; and
- (b) place the application in better form for appeal, should an appeal be necessary. Entry of the amendments is thus respectfully requested.

Applicant gratefully appreciates the allowance of claims 14-21. Applicant asserts that claims 1-13 and 22-35 are allowable at least for the reasons discussed below.

Claims 1, 6, 7, 10 and 13 are rejected under 35 U.S.C. §102(b) as anticipated by U.S. Patent No. 5,047,678 to Ogawa. The rejection is respectfully traversed.

Applicant asserts that Ogawa does not disclose each and every feature recited in the rejected claims. For example, Ogawa does not disclose a slip ring cover having a suction/discharge port and a wall in the suction/discharge port, the wall is shaped to define a suction/discharge port to extend in a peripheral direction of the slip ring and open outside the slip ring cover, as recited in amended claim 1. Furthermore, the opening portion 12c disclosed in Ogawa is formed at a partition plate 12 that surrounds a brush holder 10. In contrast, the suction/discharge port recited in claim 1 is formed in a wall of a slip ring cover.

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Accordingly, Ogawa does not disclose each and every feature recited in the rejected claims. Thus, Applicant respectfully requests the rejection of claims 1, 6, 7, 10 and 13 under 35 U.S.C. §102(b) be withdrawn.

Claims 2-5 and 8 are rejected under 35 U.S.C. §103(a) as unpatentable over Ogawa in view of U.S. Patent No. 4,626,720 to Fukasaku et al. (Fukasaku). The rejection is respectfully traversed.

The Office Action admits that Ogawa does not disclose the additional features recited in claims 2-5 and 8. To overcome the admitted deficiency, the Office Action combines Fukasaku and alleges that it would have been obvious at the time the invention was made to modify the generator of Ogawa to include a slip ring cover, brush holder, and port configuration as allegedly disclosed by Fukasaku.

Although the Office Action alleges that Fukasaku discloses a slip ring cover 70' having a first wall 75 formed in the shape of an arc, as shown in Fig. 4, Fukasaku discloses no such slip ring cover. Rather, Fukasaku is silent regarding a slip ring or a slip ring cover. Rather, Fukasaku discloses a deflecting means 70' for directing induced air toward the armature 61. The deflecting means 70' has a plate plug 74 made of a resilient material having a plurality of through holes and closely fittable to the opening 26, and a tongue-like projection 75 formed integrally with the plate plug 74 on the surface thereof facing the commutator 63 and having a curvature suitably selected to direct air toward the armature 61 (col. 6, lines 13-23). Accordingly, Fukasaku does not disclose or suggest the additional features recited in the claims. Thus, Applicant respectfully requests the rejection of claims 2-5 and 8 under 35 U.S.C. §103(a) be withdrawn.

Claims 9 and 11-12 are rejected under 35 U.S.C. §103(a) as unpatentable over Ogawa in view of DE 19950126 to Ishida et al. (Ishida). The rejection is respectfully traversed.

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The Office Action admits that Ogawa does not disclose the additional features recited in claims 9 and 11-12. To overcome the admitted deficiency, the Office Action combines Ishida and alleges that it would have been obvious to one of ordinary skill at the time of the invention to modify the generator of Ogawa by including a sidewall, an extending portion, and a rib-shaped projection configuration as allegedly disclosed by Ishida.

Applicant asserts that neither Ogawa nor Ishida, whether considered alone or in combination, disclose or suggest an AC generator as in claim 1, wherein the slip ring cover has a sidewall portion formed perpendicularly with respect to the direction of the rotary shaft and at least one of a projection and a groove formed in the sidewall portion to divide the area where the slip ring cover abuts against the brush holder into a plurality of portions.


Rather, Ishida discloses a slip ring cover 33 having a rear end cover 53 and a partition 43. The partition 43 extends from the rear cover 53. The partition 43 divides air chamber 42 to form a U-shaped passage composed of a series-connected air passages 42a and 42b. The air passage 42a connects to the inside of the slip ring cover 33 near the portion where the brushes 28 and 29 are in contact with the slip rings 21 and 22, and the air passage 42b connects to the outside of the slip ring cover 33 (col. 3, lines 10-25, Fig. 2). Therefore, the slip ring cover of Ishida does not abut against the brush holder. Accordingly, Ishida does not overcome the admitted deficiencies of Ogawa. Thus, Applicant respectfully requests the rejection of claims 9, 11 and 12 under 35 U.S.C. §103(a) be withdrawn.

In view of the foregoing, reconsideration of the application is requested. It is submitted that the claims as presented herein patentably distinguish over the applied references and fully meet the requirements of 35 U.S.C. §112. Accordingly, allowance of claims 1-35 is respectfully solicited.

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Should the Examiner believe anything further is desirable in order to place the application in even better condition for allowance, he is requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,


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Attachments:

Appendix
Amendment Transmittal

Date: April 11, 2003

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COURTESY COPY

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Docket No. 112121

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APPENDIX

Changes to Claims:

Claims 22-35 are added.

The following is a marked-up version of the amended claims:

1. (Twice Amended) An AC generator for a vehicle, comprising:
a rotor having a rotary shaft, a field winding, and a slip ring provided on one end of the rotary shaft and electrically connected to the field winding; and
a brush unit having a brush held in sliding contact with the slip ring, a spring for pressing the brush, a brush holder having a portion for receiving the brush, and a slip ring cover for covering the outer periphery of the slip ring; and
wherein the slip ring cover has a suction/discharge port that extends in an axial direction of the rotary shaft and a wall in the suction/discharge port, the wall is shaped to define the suction/discharge port to extend in a peripheral direction of the slip ring and open outside the slip ring cover.
2. (Amended) The AC generator as in claim 1, wherein the slip ring cover wall has a first wall portion formed in a shape of an arc in cross section perpendicular to the rotary shaft, and a second wall portion formed inside the first wall portion, and the suction/discharge port is formed between the first wall portion and the second wall portion.
3. (Amended) The AC generator as in claim 2, wherein the first wall portion and the second wall portion overlap in the peripheral direction and covers the suction/discharge port.